



# Online Data Sheet

## Encoder WdGI 58A

[www.wachendorff-automation.com/wdgi58a](http://www.wachendorff-automation.com/wdgi58a)

### Wachendorff Automation

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- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

# Encoder WDGI 58A



- Robust construction for industrial use
- Housing cap die cast aluminum, with particularly eco-friendly powder coating
- Up to 25000 PPR by use of high grad electronics
- Protection to IP67, shaft sealed to IP65
- High electrical immunity
- Full connection protection with 10 VDC up to 30 VDC
- High output frequency 600 kHz/2 MHz
- Optional: -40 °C up to +85 °C, Pressure equalising membrane

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## Resolution

Max. pulses per revolution PPR	2048 ppr
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## Mechanical Data

### Housing

Flange	synchro flange
Flange material	aluminum
Housing cap	die cast aluminum, powder coated
Housing	Ø 58 mm
Cam mounting	pitch 69 mm

### Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.5 Ncm at ambient temperature

Shaft Ø 6 mm

Shaft length L: 12 mm

Max. Permissible shaft loading radial 125 N

Max. Permissible shaft loading axial 70 N

## Bearings

Bearings type	2 precision ball bearings
Nominal service life	3 x 10 <sup>8</sup> revs. at 100 % rated shaft load 5 x 10 <sup>9</sup> revs. at 40 % rated shaft load 4 x 10 <sup>10</sup> revs. at 20 % rated shaft load
Max. operating speed	10000 rpm

## Machinery Directive: basic data safety integrity level

MTTF <sub>d</sub>	200 a
Mission time (TM)	25 a
Nominal service life (L10h)	4 x 10 <sup>10</sup> revs. at 20 % rated shaft load and 10000 rpm
Diagnostic coverage (DC)	0 %

## Electrical Data

Power supply VDC	5 - 30 VDC
Current consumption	typ. 70 mA
Signal shape	square-wave
Output circuit	HTL inverted
Channels	AB, ABN, and inverted signals
Output	push-pull
Load	max. 40 mA / channel
Signal level mA	at 20 mA

Signal level H>	H > V <sub>cc</sub> - 10 % V <sub>cc</sub>
Signal level L<	L < 2.5 VDC
Output frequency	max. 200 kHz
Circuit protection	inverse-polarity protection only
Light reserve warning	no

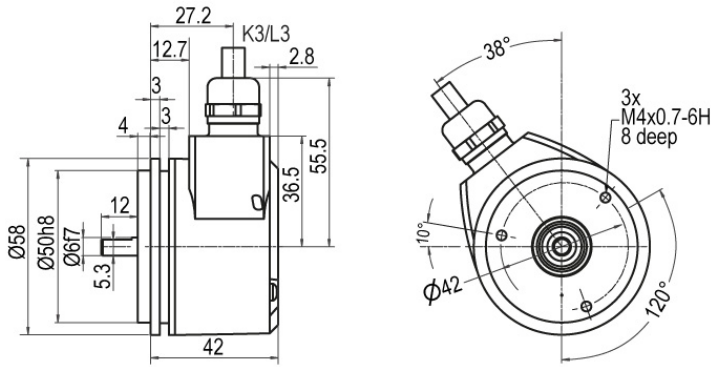
## General Data

Weight	approx. 230 g
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, cable: -20 °C up to +80 °C, (Option ACA: -40 °C up to +85 °C) 1 V <sub>pp</sub> : -10 °C up to +70 °C
Storage temperature	Connector: -30 °C up to +85 °C, cable: -30 °C up to +80 °C, option ACA: -40 °C up to +85 °C

## More Information

General technical data and safety instructions  
<http://www.wachendorff-automation.com/gtd>

Options  
<http://www.wachendorff-automation.com/acc>

**WDGI 58A: Cable connection K3, L3, radial, with 2 m cable**

**Description**
**ABN inv. poss.**
**K3** radial, shield not connected

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Assignments	
	<b>K3</b>
<b>Circuit</b>	R30
<b>GND</b>	WH
<b>(+) Vcc</b>	BN
<b>A</b>	GN
<b>B</b>	YE
<b>N</b>	GY
<b>Light reserve warning</b>	-
<b>A inv.</b>	RD
<b>B inv.</b>	BK, (BU at ACA)
<b>N inv.</b>	VT
<b>Shield</b>	flex

## Options

### Low-friction bearings

The encoder WDG1 58A is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.25 Ncm and the protection class at the shaft input to IP50.

### Order key

**AAC**

### Pressure equalising membrane

The WDG1 58A shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity.

The IP67 protection level, temperature range and salt spray resistance are maintained. Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.

### Order key

**ACR**

### Cable length

The encoder WDG1 58A can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see [www.wachendorff-automation.com/atd](http://www.wachendorff-automation.com/atd)

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.

Example: 5 m cable = 050

### Order key

**XXX = Decimeter**

Example Order No.		Type				Your encoder
WDGI 58A		WDGI 58A				WDGI 58A
		Shaft				
06		06				06
		Pulses per revolution PPR:				
2048		2048				2048
		Channels:				
ABN		ABN				ABN
		Output circuit				
R30	Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order key	R30
	up to 2500	5 - 30	HTL inverted	-	R30	
		Electrical connections				
K3	Description			ABN inv. poss.	Order key	K3
	Cable: length (2 m standard, WDG 58T: 1 m) radial, shield not connected			•	K3	
		Options				
		Description			Order key	
		Low-friction bearings			AAC	
		Pressure equalising membrane			ACR	
		Cable length			Cable length	
		Without option			Empty	

<b>Example Order No.=</b>	WDGI 58A	06	2048	ABN	R30	K3		WDGI 58A	06	2048	ABN	R30	K3		<b>Your encoder</b>
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For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
<https://www.wachendorff-automation.com/>



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